FORM PTO-1390 (REV. 12-2001) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: EX99-004C-US

U.S. APPLICATION NO. (If known, see 37 CFR 1.5): 10/018,248

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/US00/15880	06/08/2000	06/14/1999

TITLE OF INVENTION: Animal Models and Methods for Analysis of Lipid Metabolism and Screening of Pharmaceutical and Pesticidal Agents that Modulate Lipid Metabolism

APPLICANT(S) FOR DO/EO/US: Costa et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☐ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☐ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. ☐ is attached hereto (required only if not communicated by the International Bureau).
   b. ☐ has been communicated by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
   a. ☐ is attached hereto.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Aplication under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. ☐ are attached hereto (required only if not communicated by the International Bureau).
   b. ☐ have been communicated by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English lanugage translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☑ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☑ Other items or information: return receipt postcard; Notification of Defective Response (2p); Raw Sequence Listing Error Report (1p)

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
10/018,248	PCT/US00/15880	EX99-004C-US

21. ☐ The following fees are submitted:	CALCULATIONS PTO USE ONLY	
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)):		
Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO **$1040.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO **$890.00**		
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO **$740.00**		
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) **$710.00**		
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) **$100.00**		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$	
Surcharge of **$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	- 20 =		x **$18.00**	$	
Independent claims	- 3 =		x **$84.00**	$	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ **$280.00**	$	
TOTAL OF ABOVE CALCULATIONS =				$	
☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. +				$	
SUBTOTAL =				$	
Processing fee of **$130.00** for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				$	
TOTAL NATIONAL FEE =				$	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property +				$	
TOTAL FEES ENCLOSED =				$	
				Amount to be refunded:	$
				charged:	$

a. ☐ A check in the amount of $ _____ to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of $ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☑ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-1108. A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information should not be included on this form.** Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Jan P. Brunelle
Exelixis, Inc.
P.O. Box 511
170 Harbor Way
S. San Francisco, CA 94083-0511

Jan P. Brunelle
SIGNATURE

Jan P. Brunelle
NAME

35,081
REGISTRATION NUMBER

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box PCT
United States Patent and Trademark Office
Washington, D.C. 20231
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/018,248	Costa	EX 99-004C-US

INTERNATIONAL APPLICATION NO.	
PCT/US00/15880	
I.A. FILING DATE	PRIORITY DATE
06/08/2000	

Jan P Brunelle
Exelixis Inc
170 Harbor Way
PO Box 511
South San Francisco, CA 94083-0511

CONFIRMATION NO. 6072

371 FORMALITIES LETTER

OC000000008255767

Date Mailed: 06/12/2002

NOTIFICATION OF DEFECTIVE RESPONSE

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fee
- Biochemical Sequence Diskette
- Biochemical Sequence Listing
- Copy of IPE Report
- Copy of the International Application
- Copy of the International Search Report
- Oath or Declaration
- Request for Immediate Examination

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.136, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).

The following items **MUST** be furnished within the period set forth below:

- The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821-1.825 for the following reason(s):

  - A copy of the "Sequence Listing" in computer readable form has been submitted. The content of the computer readable form, however, does not comply with the requirements of 37 CFR 1.822 and/or 1.832, as indicated on the attached marked-up copy of the "Raw Sequence Listing."
  - APPLICANT MUST PROVIDE:
    - An initial or substitute paper copy or compact disc of the "Sequence Listing," as well as an amendment directing its entry into the specification.

- For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:
  - For Rules Interpretation, call (703) 308-4216
  - To Purchase PatentIn Software, call (703) 306-2600
  - For PatentIn Software Program Help, call (703) 306-4119 or e-mail at patin21help@uspto.gov or patin3help@uspto.gov

  - A copy of the "Sequence Listing" in computer readable form has been submitted. The content of the computer readable form, however, does not comply with the requirements of 37 CFR 1.822 and/or 1.832, as indicated on the attached marked-up copy of the "Raw Sequence Listing."

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

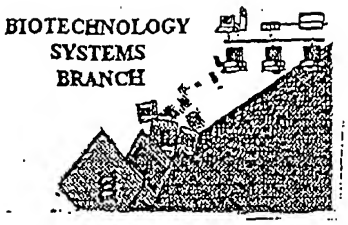
LAMONT M HUNTER

Telephone: (703) 305-3686

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/018,248	PCT/US00/15880	EX 99-004C-US

FORM PCT/DO/EO/916 (371 Formalities Notice)



LH

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/018,248
Source: PCT 10
Date Processed by STIC: 5/22/02

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
http://www.uspto.gov/web/offices/pac/checker

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, EFS Submission User Manual - ePAVE)
2. **U.S. Postal Service:** U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. **Hand Carry directly to:**
   U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
   Or
   U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. **Federal Express, United Parcel Service, or other delivery service to:** U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

PCT10

RAW SEQUENCE LISTING DATE: 05/22/2002
PATENT APPLICATION: US/10/018,248 TIME: 15:48:57

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Output Set: N:\CRF3\05222002\J018248.raw

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     3 <110> APPLICANT: EXELIXIS, INC.
     5 <120> TITLE OF INVENTION: ANIMAL MODELS AND METHODS FOR ANALYSIS OF LIPID
     6       METABOLISM AND SCREENING OF PHARMACEUTICAL AND
     7       PESTICIDAL AGENTS THAT MODULATE LIPID METABOLISM
     9 <130> FILE REFERENCE: SREBP-INT
--> 11 <140> CURRENT APPLICATION NUMBER: US/10/018,248
    12 <141> CURRENT FILING DATE: 2000-06-08
    14 <150> PRIOR APPLICATION NUMBER: 09/332,522
    15 <151> PRIOR FILING DATE: 1999-06-14
    17 <150> PRIOR APPLICATION NUMBER: 60/189,700
    18 <151> PRIOR FILING DATE: 2000-03-15
    20 <160> NUMBER OF SEQ ID NOS: 8
    22 <170> SOFTWARE: PatentIn Ver. 2.1


RRORED SEQUENCES

    89 <210> SEQ ID NO: 2
    90 <211> LENGTH: 1113
    91 <212> TYPE: PRT
    92 <213> ORGANISM: Caenorhabditis elegans
    94 <400> SEQUENCE: 2
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    99              20                  25                  30
   101 Pro Leu Asp Phe Asp Met Glu His Asn Trp Gln Glu Pro Gly Pro Ser
   102          35                  40                  45
   104 Gln Gln Pro Asp Pro Ser Ile Pro Gly Asn Gln His Ser Pro Pro Gln
   105      50                  55                  60
   107 Glu Tyr Tyr Asp Ile Asp Gly Gln Arg Asp Val Ser Thr Leu His Ser
   108  65                  70                  75                  80
   110 Leu Leu Asn His Asn Asn Asp Asp Phe Phe Ser Met Arg Phe Ser Pro
   111                 85                  90                  95
   113 Pro Asn Phe Asp Leu Gly Gly Gly Arg Gly Pro Ser Leu Ala Ala Thr
   114             100                 105                 110
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   117         115                 120                 125
   119 Thr Ser Pro Pro Ser Gly Gly Tyr Pro Pro Ala Asp Ala Tyr Arg Pro
   120     130                 135                 140
   122 Leu Ser Leu Ala Gln Gln Leu Ala Ala Pro Ala Met Thr Pro His Gln
   123 145                 150                 155                 160
   125 Ala Ala Ser Leu Phe Val Asn Thr Asn Gly Ile Asp Gln Lys Asn Phe
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RAW SEQUENCE LISTING DATE: 05/22/2002
PATENT APPLICATION: US/10/018,248 TIME: 15:48:57

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132         195                 200                 205
134 Asp Gln Ala Gln Gly Pro Ser Gly Pro Ser Tyr Tyr Ser Gln His His
135     210                 215                 220
137 Gln Ser Pro Pro Pro His His His His His His Pro Met Pro Lys Ile
138 225                 230                 235                 240
140 His Glu Asn Pro Glu Gln Val Ala Ser Pro Ser Ile Glu Asp Ala Pro
141                 245                 250                 255
143 Glu Thr Lys Pro Thr His Leu Val Glu Pro Gln Ser Pro Lys Ser Pro
144             260                 265                 270
146 Gln Asn Met Lys Glu Glu Leu Leu Arg Leu Leu Val Asn Met Ser Pro
147         275                 280                 285
149 Ser Glu Val Glu Arg Leu Lys Asn Lys Lys Ser Gly Ala Cys Ser Ala
150     290                 295                 300
152 Thr Asn Gly Pro Ser Arg Ser Lys Glu Lys Ala Ala Lys Ile Val Ile
153 305                 310                 315                 320
155 Gln Glu Thr Ala Glu Gly Asp Glu Asp Glu Asp Asp Glu Asp Ser Asp
156                 325                 330                 335
158 Ser Gly Glu Thr Met Ser Gln Gly Thr Thr Ile Ile Val Arg Arg Pro
159             340                 345                 350
161 Lys Thr Glu Arg Arg Thr Ala His Asn Leu Ile Glu Lys Lys Tyr Arg
162         355                 360                 365
164 Cys Ser Ile Asn Asp Arg Ile Gln Gln Leu Lys Val Leu Leu Cys Gly
165     370                 375                 380
167 Asp Glu Ala Lys Leu Ser Lys Ser Ala Thr Leu Arg Arg Ala Ile Glu
168 385                 390                 395                 400
170 His Ile Glu Glu Val Glu His Glu Asn Gln Val Leu Lys His His Val
171                 405                 410                 415
173 Glu Gln Met Arg Lys Thr Leu Gln Asn Asn Arg Leu Pro Tyr Pro Glu
174             420                 425                 430
176 Pro Ile Gln Tyr Thr Glu Tyr Ser Ala Arg Ser Pro Val Glu Ser Ser
177         435                 440                 445
179 Pro Ser Pro Pro Arg Asn Glu Arg Lys Arg Ser Arg Met Ser Thr Thr
180     450                 455                 460
182 Thr Pro Met Lys Asn Gly Thr Arg Asp Gly Ser Ser Lys Val Thr Leu
183 465                 470                 475                 480
185 Phe Ala Met Leu Leu Ala Val Leu Ile Phe Asn Pro Ile Gly Leu Leu
186                 485                 490                 495
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189             500                 505                 510
191 Ser Pro Phe Glu His Gly Arg Val Ile Asp Asp Pro Asp Gly Thr Ser
192         515                 520                 525
194 Thr Arg Thr Leu Phe Trp Glu Gly Ser Ile Ile Asn Met Ser Tyr Val
195     530                 535                 540
197 Trp Val Phe Asn Ile Leu Met Ile Ile Tyr Val Val Val Lys Leu Leu
198 545                 550                 555                 560
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RAW SEQUENCE LISTING DATE: 05/22/2002
PATENT APPLICATION: US/10/018,248 TIME: 15:48:57

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Output Set: N:\CRF3\05222002\J018248.raw

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207         595                 600                 605
209 Arg Ser Leu Pro Ser Pro Gly Val Asp Ser Val Phe Ser Val Gly Trp
210     610                 615                 620
212 Glu Cys Val Arg His Leu Leu Asn Trp Leu Trp Ile Gly Arg Tyr Ile
213 625                 630                 635                 640
215 Ala Arg Arg Arg Arg Ser Thr Thr Lys Pro Val Ser Val Val Cys Arg
216                 645                 650                 655
218 Ser His Ala Gln Thr Ala Val Leu Tyr His Glu Ile His Gln Leu His
219             660                 665                 670
221 Leu Met Gly Ile Thr Gly Asn Phe Glu Asp Thr Tyr Glu Pro Ser Ala
222         675                 680                 685
224 Leu Thr Gly Leu Phe Met Ser Leu Cys Ala Val Asn Leu Ala Glu Ala
225     690                 695                 700
227 Ala Gly Ala Ser Asn Asp Gly Leu Pro Arg Ala Val Met Ala Gln Ile
228 705                 710                 715                 720
230 Tyr Ile Ser Ala Ser Ile Gln Cys Arg Leu Ala Leu Pro Asn Leu Leu
231                 725                 730                 735
233 Ala Pro Phe Phe Ser Gly Tyr Phe Leu Arg Arg Ala Arg Arg His Val
234             740                 745                 750
236 Arg Arg Ala Pro Glu His Ser Val Ser His Leu Leu Trp Ile Phe His
237         755                 760                 765
239 Pro Ala Thr Arg Lys Phe Met Ser Asp Ala Lys Arg Leu Glu His Val
240     770                 775                 780
242 Leu Ser Ser Lys Gln Lys Gln Leu Arg Phe Gly Ser Phe Val Glu Asp
243 785                 790                 795                 800
245 Glu Gln Leu Ser Pro Leu Ala Arg Ile Arg Thr Thr Leu Lys Val Tyr
246                 805                 810                 815
248 Leu Leu Ser Lys Leu Val Gln Glu Leu Val Gly Gly Asp Glu Ile Phe
249             820                 825                 830
251 Thr Lys Asn Val Glu Arg Ile Leu Asn Asp Asn Asp Arg Leu Asp Asp
252         835                 840                 845
254 Glu Val Asp Val Val Asp Val Ser Arg Leu Leu Val Thr Ile Ser Thr
255     850                 855                 860
257 Gln Cys Ala Ala Ile Leu Thr Asn Glu Lys Asp Glu Ser Ala Lys Phe
258 865                 870                 875                 880
260 Gly Thr Trp Ile Ser Arg Asn Gly Asp Ala Cys Cys Thr Trp Trp Thr
261                 885                 890                 895
263 His Val Leu Thr Cys Gly Ile Tyr Trp Arg Ser Asn Lys Asn Glu Leu
264             900                 905                 910
266 Ala Arg Gln His Tyr Ser Leu Ile Arg Asn Cys Pro Pro Lys Ile Leu
267         915                 920                 925
269 Thr Asp Asn Leu Gly Leu Ala Val Gly His Ala Leu Cys Ala Arg Lys
270     930                 935                 940
272 Ile Cys Ile Asp Asp Arg Asp Ser Pro Lys Val Ser Gln Tyr Val Cys
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see page 6.

RAW SEQUENCE LISTING DATE: 05/22/2002
PATENT APPLICATION: US/10/018,248 TIME: 15:48:57

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Output Set: N:\CRF3\05222002\J018248.raw

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279             980                 985                 990
281 Met Ala Tyr Glu Trp Ile Met Asn Ser Leu Leu Asp Ala Trp Arg Ser
282         995                 1000                1005
284 Asn Leu Phe Ala Ser Lys Pro Tyr Trp Thr Gln Ser Phe Lys Gly Gln
285    1010                1015                1020
287 Ser Thr Phe Ser Thr Leu Tyr Gln Glu Ala Tyr Asn His Tyr Ala Ile
288 1025                1030                1035                1040
290 Ile Asn Gly Thr Arg Gly Asp Cys Trp Arg Leu Phe Val Tyr Glu Leu
291                 1045                1050                1055
293 Thr Cys Arg Met Leu Asn Gly Ala Asn Pro Gln Ala Thr Trp Ser Gly
294             1060                1065                1070
--> 296 Xaa Arg Arg Val Arg Ser Thr Lys Met Asp Ala Val Arg Gly Arg Val
297         1075                1080                1085
299 Ser Met Arg Arg Ser Ala Gln Pro Asp Ala Phe His Leu His Thr Leu
300    1090                1095                1100
302 Val Lys Leu His Thr Ser Met Asp Leu
303 1105                1110
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768 <210> SEQ ID NO: 7
769 <211> LENGTH: 3160
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771 <213> ORGANISM: Drosophila melanogaster
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776 aacagccgtt gttccaaatg agttcatcgt tcacttccat tcaaaatact ttgccccggt 180
777 ccgagaatcc tacatcgcag caaaacttct tggttcaaac gtaacgaact ggagaattgt 240
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779 cggttatgaa tcatcatcag agtttattat agaaaggctt cagactcacc catcagtaaa 360
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781 aacgtatatt caccgccatc cccaaggagt gctaaggaac agaaacccaa acaacgatcg 480
782 ccaccgacaa ttgtgctccg tactccacgc caacatcctt tggaagctgg gtatcacagg 540
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784 aaatgtaaag gaacgaacaa actggacgaa tgaaaagtca cttgacgaca gagtcagtca 660
785 tggcaccttc gtcgccgggg taatcgcttc ttccagggaa tgcctaggct tcgctcccga 720
786 cgccgatctt tacatattta aagtttttac gaactcccaa gtttcttaca cttcctggtt 780
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RAW SEQUENCE LISTING DATE: 05/22/2002
PATENT APPLICATION: US/10/018,248 TIME: 15:48:58

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Output Set: N:\CRF3\05222002\J018248.raw

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799 tggcatccct aaatggattc ccgatttcga aaaccaaggt cagtttcttc aagtatctgc 1560
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804 gtatccaccg cgctatattc cacgagatga tctcaaagtt aaactagatc ctctggactg 1860
805 gagggcagac catatacaca caaactttag ggacatgtat acacatttac gaaatgttgg 1920
806 ctactacatt gatgttttgc gagaaccctt cacctgcttc aatgcctcgg attatggcgc 1980
807 gttattgatt gttgaccctg agagagggtt tggcgacgag gaaataaacg ctttacagga 2040
808 aaacgtgtat aaaagaggct tgaatgtcgt cgtattcgga gactggtata acaccactgt 2100
809 gatgaaaaaa attaaattct ttgacgagaa cacccgacaa tggtggacac ccgacactgg 2160
810 tggcgcaaat attccagcct tgaatgattt attgaagcca tttggaattg cttttggcga 2220
811 ttttgtcggt gagggacatt tcaaactggg cgaccattca atgtactatg ctagtggagc 2280
812 cacaattgtt aagtttccaa tgaatccagg agatattata gtgggcacaa aactgaatga 2340
813 ccaaggactt tcgattatta attctaaaac acccagcaag gtagcaaaac tagatgtacc 2400
814 tatttttggt atgttccaaa ccaaggcgaa cagtattcaa agcaacgagg aaatcgtggt 2460
815 caatgcggaa agcaatttgg cagaggctat acccacagat tactccacat ttaagaaccg 2520
816 ggttttgcta ctgcgaacga agcaacgaag tatcagtttt gcgaaaagca ataatcatga 2580
817 aactaagaat gaaggacgta ttgccgtata tggggactcc aactgcctcg actccacgca 2640
818 tctggagaag gcttgctact ggctgctaat aacgttttta gattttgcaa taaactcgca 2700
819 caaatcaagt ttattgcaga atctaaatcg tataactgaa tttcacaaat tagagagagc 2760
820 accattaccc cttaggatat cgcaaagtat tataaaatct cgttcacagg acaataattg 2820
821 tgaacaattt aagtggcttg caccgacgaa gcaaaataac gccgaggaaa ggaaatcttc 2880
822 tataatagac gtaaccatac tggaaaatga agaacacgag ataaatttaa tcaaaaattt 2940
823 attgggtgag gagatcgcaa aactagggca aaacaatgat tatttaacag gaatgcaatc 3000
--> 824 cgcggatagt ctaatgactc caatatattc taattannat aagcctaant gtatcatgta 3060
825 tttgtttatt ttaaagcgtc attcatttgt aataatactt cactttaaaa cgtaaaaaaa 3120
826 aaaaaactga ggggccgtac cattcgctaa ggagcgatct 3160

see page 9

829 <210> SEQ ID NO: 8
830 <211> LENGTH: 993
831 <212> TYPE: PRT
832 <213> ORGANISM: Drosophila melanogaster
834 <400> SEQUENCE: 8
835 Met Asn Val Phe Thr Phe Leu Phe Ile Ile Ser Ala Ile Cys Ser Leu
836 1 5 10 15
838 Asp Ala Phe Lys Thr Ala Val Val Pro Asn Glu Phe Ile Val His Phe
839 20 25 30
841 His Ser Lys Tyr Phe Ala Pro Val Arg Glu Ser Tyr Ile Ala Ala Lys
842 35 40 45
844 Leu Leu Gly Ser Asn Val Thr Asn Trp Arg Ile Val Pro Arg Leu Asn
845 50 55 60
847 Leu Ala Trp Gln Tyr Pro Ser Asp Phe Asp Ile Leu Arg Val Cys Asp
848 65 70 75 80
850 Gly Tyr Glu Ser Ser Ser Glu Phe Ile Ile Glu Arg Leu Gln Thr His
851 85 90 95
853 Pro Ser Val Lys Ala Val Val Pro Gln Arg Ser Val Arg Arg Ile Leu
854 100 105 110

RAW SEQUENCE LISTING DATE: 05/22/2002
PATENT APPLICATION: US/10/018,248 TIME: 15:48:58

Input Set : A:\PCT.US00.15880.APP
Output Set: N:\CRF3\05222002\J018248.raw

```
856 Asn Tyr Asp Ala Tyr Ser Asn Leu Thr Tyr Ile His Arg His Pro Gln
857         115                 120                 125
859 Gly Val Leu Arg Asn Arg Asn Pro Asn Asn Asp Arg His Arg Gln Leu
860     130                 135                 140
862 Cys Ser Val Leu His Ala Asn Ile Leu Trp Lys Leu Gly Ile Thr Gly
863 145                 150                 155                 160
865 Lys Gly Val Lys Val Ala Ile Phe Asp Thr Gly Leu Thr Lys Asn His
866                 165                 170                 175
868 Pro His Phe Arg Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Lys
869             180                 185                 190
871 Ser Leu Asp Asp Arg Val Ser His Gly Thr Phe Val Ala Gly Val Ile
872         195                 200                 205
874 Ala Ser Ser Arg Glu Cys Leu Gly Phe Ala Pro Asp Ala Asp Leu Tyr
875     210                 215                 220
877 Ile Phe Lys Val Phe Thr Asn Ser Gln Val Ser Tyr Thr Ser Trp Phe
878 225                 230                 235                 240
880 Leu Asp Ala Phe Asn Tyr Ala Ile Tyr Arg Lys Ile Asn Ile Leu Asn
881                 245                 250                 255
883 Leu Ser Ile Gly Gly Pro Asp Phe Met Asp Ser Pro Phe Val Glu Lys
884             260                 265                 270
886 Val Leu Glu Leu Ser Ala Asn Asn Val Ile Met Ile Ser Ala Ala Gly
887         275                 280                 285
889 Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro Gly Asp Gln Ser
890     290                 295                 300
892 Asp Val Val Gly Val Gly Gly Ile Gln Phe Asp Asp Lys Ile Ala Lys
893 305                 310                 315                 320
895 Phe Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Leu Gly Tyr Gly
896                 325                 330                 335
898 Arg Met Gly Leu Asp Ile Val Thr Tyr Gly Ser Gln Val Glu Gly Ser
899             340                 345                 350
901 Asp Val Arg Lys Gly Cys Arg Arg Leu Ser Gly Thr Ser Val Ser Ser
902         355                 360                 365
904 Pro Val Val Ala Gly Ala Ala Ala Leu Leu Ile Ser Gly Ala Phe Gln
905     370                 375                 380
907 Lys Ile Asp Tyr Ile Asn Pro Ala Ser Leu Lys Gln Val Leu Ile Glu
908 385                 390                 395                 400
910 Gly Ala Glu Lys Leu Pro His Tyr Asn Met Phe Glu Gln Gly Ala Gly
911                 405                 410                 415
913 Lys Leu Asn Leu Leu Lys Ser Met Gln Leu Leu Leu Ser Tyr Lys Pro
914             420                 425                 430
916 Lys Ile Thr Leu Ile Pro Ala Tyr Leu Asp Phe Thr Gln Asn Tyr Met
917         435                 440                 445
919 Trp Pro Tyr Ser Ser Gln Pro Leu Tyr Tyr Gly Ser Ser Val Ala Ile
920     450                 455                 460
922 Ala Asn Val Thr Ile Leu Asn Gly Ile Ser Val Thr Ser His Ile Val
923 465                 470                 475                 480
925 Gly Ile Pro Lys Trp Ile Pro Asp Phe Glu Asn Gln Gly Gln Phe Leu
926                 485                 490                 495
928 Gln Val Ser Ala Gln Val Ser Pro Ile Val Trp Pro Trp Thr Gly Trp
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002
TIME: 15:48:58

Input Set : A:\PCT.US00.15880.APP
Output Set: N:\CRF3\05222002\J018248.raw

```
929                 500                 505                 510
931 Met Ser Val Phe Ile Ala Val Lys Lys Glu Gly Glu Asn Phe Glu Gly
932         515                 520                 525
934 Val Cys Lys Gly Ser Ile Thr Leu Val Leu Glu Ser Phe Lys Gln Thr
935     530                 535                 540
937 Thr Asn Glu Thr His Val Thr Glu Val Asp Phe Pro Leu Thr Ile Lys
938 545                 550                 555                 560
940 Val Thr Pro Lys Pro Pro Arg Asn Lys Arg Ile Leu Trp Asp Gln Tyr
941                 565                 570                 575
943 His Ser Leu Arg Tyr Pro Pro Arg Tyr Ile Pro Arg Asp Asp Leu Lys
944             580                 585                 590
946 Val Lys Leu Asp Pro Leu Asp Trp Arg Ala Asp His Ile His Thr Asn
947         595                 600                 605
949 Phe Arg Asp Met Tyr Thr His Leu Arg Asn Val Gly Tyr Tyr Ile Asp
950     610                 615                 620
952 Val Leu Arg Glu Pro Phe Thr Cys Phe Asn Ala Ser Asp Tyr Gly Ala
953 625                 630                 635                 640
955 Leu Leu Ile Val Asp Pro Glu Arg Gly Phe Gly Asp Glu Glu Ile Asn
956                 645                 650                 655
958 Ala Leu Gln Glu Asn Val Tyr Lys Arg Gly Leu Asn Val Val Val Phe
959             660                 665                 670
961 Gly Asp Trp Tyr Asn Thr Thr Val Met Lys Lys Ile Lys Phe Phe Asp
962         675                 680                 685
964 Glu Asn Thr Arg Gln Trp Trp Thr Pro Asp Thr Gly Gly Ala Asn Ile
965     690                 695                 700
967 Pro Ala Leu Asn Asp Leu Leu Lys Pro Phe Gly Ile Ala Phe Gly Asp
968 705                 710                 715                 720
970 Phe Val Gly Glu Gly His Phe Lys Leu Gly Asp His Ser Met Tyr Tyr
971                 725                 730                 735
973 Ala Ser Gly Ala Thr Ile Val Lys Phe Pro Met Asn Pro Gly Asp Ile
974             740                 745                 750
976 Ile Val Gly Thr Lys Leu Asn Asp Gln Gly Leu Ser Ile Ile Asn Ser
977         755                 760                 765
979 Lys Thr Pro Ser Lys Val Ala Lys Leu Asp Val Pro Ile Phe Gly Met
980     770                 775                 780
982 Phe Gln Thr Lys Ala Asn Ser Ile Gln Ser Asn Glu Glu Ile Val Val
983 785                 790                 795                 800
985 Asn Ala Glu Ser Asn Leu Ala Glu Ala Ile Pro Thr Asp Tyr Ser Thr
986                 805                 810                 815
988 Phe Lys Asn Arg Val Leu Leu Leu Arg Thr Lys Gln Arg Ser Ile Ser
989             820                 825                 830
991 Phe Ala Lys Ser Asn Asn His Glu Thr Lys Asn Glu Gly Arg Ile Ala
992         835                 840                 845
994 Val Tyr Gly Asp Ser Asn Cys Leu Asp Ser Thr His Leu Glu Lys Ala
995     850                 855                 860
997 Cys Tyr Trp Leu Leu Ile Thr Phe Leu Asp Phe Ala Ile Asn Ser His
998 865                 870                 875                 880
1000 Lys Ser Ser Leu Leu Gln Asn Leu Asn Arg Ile Thr Glu Phe His Lys
1001                885                 890                 895
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002
TIME: 15:48:58

Input Set : A:\PCT.US00.15880.APP
Output Set: N:\CRF3\05222002\J018248.raw

```
1003 Leu Glu Arg Ala Pro Leu Pro Leu Arg Ile Ser Gln Ser Ile Ile Lys
1004             900                 905                 910
1006 Ser Arg Ser Gln Asp Asn Asn Cys Glu Gln Phe Lys Trp Leu Ala Pro
1007         915                 920                 925
1009 Thr Lys Gln Asn Asn Ala Glu Glu Arg Lys Ser Ser Ile Ile Asp Val
1010     930                 935                 940
1012 Thr Ile Leu Glu Asn Glu Glu His Glu Ile Asn Leu Ile Lys Asn Leu
1013 945                 950                 955                 960
1015 Leu Gly Glu Glu Ile Ala Lys Leu Gly Gln Asn Asn Asp Tyr Leu Thr
1016                 965                 970                 975
1018 Gly Met Gln Ser Ala Asp Ser Leu Met Thr Pro Ile Tyr Ser Asn Tyr
1019             980                 985                 990
--> 1021 Xaa
```

See page 9

VARIABLE LOCATION SUMMARY
PATENT APPLICATION: US/10/018,248

DATE: 05/22/2002
TIME: 15:48:59

Input Set : A:\PCT.US00.15880.APP
Output Set: N:\CRF3\05222002\J018248.raw

e of n's or Xaa's(NEW RULES):
e of n's and/or Xaa's have been detected in the Sequence Listing.
e of <220> to <223> is MANDATORY if n's or Xaa's are present.
<220> to <223> section, please explain location of n or Xaa, and which
sidue n or Xaa represents.

q#:2; Xaa Pos. 1073
q#:7; N Pos. 3038,3049
q#:8; Xaa Pos. 993

VERIFICATION SUMMARY DATE: 05/22/2002
PATENT APPLICATION: US/10/018,248 TIME: 15:48:59

Input Set : A:\PCT.US00.15880.APP
Output Set: N:\CRF3\05222002\J018248.raw

11 M:270 C: Current Application Number differs, Replaced Current Application Number
296 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:2
824 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:7
1021 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:8